

**Patent Agent**

429 26th Ave., Santa Cruz, CA 95062

**FAX**

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Date: 11/14/05Number of pages including cover: 3**To:** Examiner Pon, My Trang**Fax phone:** 571-273-8300**Org:** GAU 2816 US PTO**From:** Stuart Auvinen**Phone:** (831) 476-5506**Fax phone:** (831) 477-0703**REMARKS:** ☐ Urgent ☐ For your review ☐ Reply ASAP ☐ Please comment

Ser. No. 10/711,151 Group 2816 Docket PS-125

**DRAFT DRAFT**

Attached is a draft of my proposed claim amendments for claims 1-3. I approve your proposed amendments of claims 9 and 15 and would also approve an examiners amendment with the attached edits to claims 1-3.

Thank You.

I hereby certify that this paper is being facsimile transmitted to the Patent and Trademark Office.

Signed Stuart T Auvinen

Stuart T. Auvinen, Reg. No. 36,435

Date Signed and transmitted 11/14/05

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1. A charge pump comprising:  
an up input and a down input to the charge pump;  
an output having an output capacitance to be charged in response to the up input and  
discharged in response to the down input;  
a fixed current source that sources a relatively constant source current to a first junction  
node;  
a variable current source that sources a varying source current to a second junction node,  
wherein the varying source current varies in response to a control voltage;  
a first driver transistor, coupled to conduct current between the first junction node and the  
output in response to the up input;  
a second driver transistor, coupled to conduct current between the second junction node  
and the output in response to the down input;  
a first series transistor, coupled to conduct current between the first junction node and an  
intermediate node in response to ~~an inverse of the up input~~ being inactive;  
a second series transistor, coupled to conduct current between the second junction node  
and the intermediate node in response to ~~an inverse of the down input~~ being  
inactive;  
a sampling capacitor for storing a sampled charge, generating the control voltage to the  
variable current source; and  
a sampling switch coupled to conduct current between the intermediate node and the  
sampling capacitor when the up input and the down input are inactive,  
whereby the intermediate node is coupled to the sampling capacitor to adjust the varying  
source current.
2. The charge pump of claim 1 wherein the sampling switch comprises a sampling  
transistor and a logic gate;  
wherein the sampling transistor receives a logic output signal on a gate;  
wherein the logic gate receives the up input and the down input or an ~~the~~ inverse of the  
up input and ~~the~~ an inverse of the down input and generates the logic output  
signal.

3. The charge pump of claim 1 wherein the sampling switch comprises a first sampling transistor and a second sampling transistor in series between the intermediate node and a control node of the sampling capacitor;  
wherein the first sampling transistor receives the ~~the~~an inverse of the up input on a gate;  
wherein the second sampling transistor receives the ~~the~~an inverse of the down input on a gate.